

I-204

JAPANESE MEDICAL MATERIAL

IRMERIN

(p-Oxy-benzyl-guanidine hydrochloride;
p-Oxy-benzyl-guanidine sulfate)

290399

REPORT NO. 219

14 May 1946

MEDICAL ANALYSIS SECTION

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Irmerin

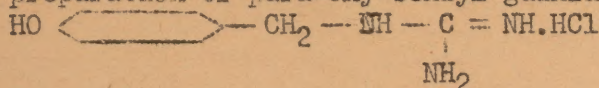
(p-Oxy-benzyl-guanidine hydrochloride;
p-Oxy-benzyl-guanidine sulfate)

SOURCE: Tokyo, Japan

IMPORTANCE: Not previously reported. A synthetic hemostatic for oral, subcutaneous or intravenous use. No identical product is listed in standard American references.

DESCRIPTION: Five 1 cc. amber ampoules of a clear solution are enclosed in a cardboard box.

SUMMARY OF GENERAL INFORMATION: Irmerin, a chemically stable preparation of para-oxy-benzyl guanidine hydrochloride,



is available in the form of a 5% sterile solution. It is also available as a powder and as tablets containing, respectively, 20% and 0.1% of para-oxy-benzyl-guanidine sulfate.

The hemostatic action of Irmerin is claimed to be due to an increase in the blood thrombin, fibrinogen, leucocytes and platelets. Injections are painless and cause no secondary reactions. Hemostatic effects are observable within 15 minutes after injection, reach a peak in 30 to 60 minutes, and lasts from 3 to 5 hours. Heart action and respiration are not notably affected.

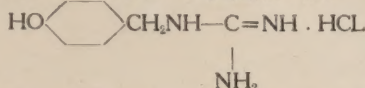
A translation of the literature accompanying the product is part of this report and describes Irmerin's pharmacology action, indications, references, routes of administration, dosage, packaging and manufacturer.

PHOTOGRAPHS: Figure 1 - Closed package of Irmerin.
Figure 2 - Open package of Irmerin.
Figure 3 - Irmerin Literature.



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IRMERIN » Takeda «

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ニ本製は生體新陳代謝に於て蛋白質の分解によりて生ずるグア
デニル酸の芳香性脂體にして岡上醫科大學の藥學部にて實驗
的研究の結果、止血作用を重く認められたる製品なり。その
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◆耳鼻・咽喉科領域 に於ては、副鼻腔、副鼻窦、咽頭、喉頭の

手術、時又は手術の出血、前額竇開放、上顎竇、内手術、甲介

泌尿科 頌威に於ては、種々ノ原因による血尿、蛋白尿、腎臓病、腎臓萎縮、

膀胱、尿管、尿道の手術後出血。

◆**内科領域** には咯血、胃潰瘍、紫斑病、壞血病。

◆小兒科領域に於ては、乳生児メレ、ナ、紫斑病等。

外科婦人科に於ける手術後、出血、子宮出血、
齒科頭部或ては皮膚部の出血、月經不調、干癢、痔瘻、の祭の出血で

多くの場合皮下注射にて奏効確實なり。用量は一般に大人一回一

を普通用ひ、場合により一回に及ぶこともあり。回数も亦一日一回

副作川を呈することなし。

静脈内に適用する場合には一回〇・五ccを徐々に注射せらるべし。

其他内服として用ふるも能く奏効し此場合一回量はイルメリン粉末

錠は、二錠を服用する。田量、五二。

▼イイルメリン粉末にはイイルメリン(硫酸テオキシベンチルグアニザン)

[illegible]

五、管

[illegible][illegible]

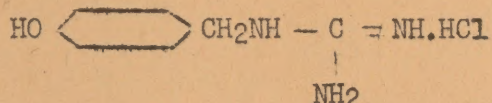
臺灣總督府 文書課編輯 光緒二十一年 九月 庚辰 朔 初九日

Translation of the Accompanying Literature

New Hemostatic Which is Not Manufactured
From the Intestines.

IRMERIN "TAKEDA"

PROPERTIES: There are two kinds of Irmerin, - an injection and other medicine (powder, tablet). Irmerin injection is the 5% solution of para-oxy-benzyl-guanidine hydrochloride and has the following chemical formula:



Since this drug is a sterilized solution of the chemically pure crystalline substance, it is not only colorless, transparent constantly efficacious, but also safe and require any care in storage. Its subcutaneous injection does not bring any recognizable unpleasant by-effects such as pain, induration etc. For oral medication, para-oxy-benzyl-guanidine sulphate is used.

ACTION: This drug is an aromatic derivative of the guanidine obtained from decomposition of so-called albumin in the metabolism of the living body. The pharmacological laboratory of the Okayama Medical College certified after experiments and research that this drug could produce a remarkable hemostatic effect. For hemostasis, it is effective in quantities of 0.5 milligram per gram of rabbit weight.

The hemostatic effect of this drug seems to be mainly due to the increase of thrombin and fibrinogen which coagulate the blood, and to the increase of leucocytes and platelets. The points where this drug acts logically to be both, the reticulo-endothelial cellular system and the liver cells. Though the drug when injected into the blood increases coagulation, this cannot be a specific effect. Namely this drug seems to act on the intestines of a living body and accelerates the production of the blood elements, but it has hardly any action on the blood.

The effect of the medicine appears in 15 minutes after an injection, it produces the highest effect in 30-60 minutes, and last for 3 to 5 hours. This drug is applicable to the vein beside the subcutaneous injection. The hemostatic effect can also be demonstrated by oral medication or by intestinal injection.

In addition to the above, this drug can decrease the blood sugar, reduce the blood pressure and remarkably enlarge the peripheral blood vessels, especially the blood vessels of the spleen. The expansion of blood vessels of the spleen seems to have a certain connection with the blood coagulation accelerating effect. It also excites the smooth intestinal muscles. These effects, however, are weak in comparison with the blood coagulation accelerating effect, therefore you need not care about them in using the drug. It acts very weakly on the heart and the respiratory center.

- REFERENCES: Mr. Shinozaki - Magazine the 42nd year.
The Okayama Medical Institution, 1930,
Nos. 5 & 10.
- Mr. Shinozaki - Magazine the 43rd year.
The Okayama Medical Institution, 1931,
No. 4.
- Mr. Kuroda - Foreign Language Bulletin.
The Okayama Medical College, 1932,
Volume 2, No. 3.
- Selection - Magazine the 44th year.
The Okayama Medical Institution, 1932.
No. 2, Page 503.
- Mr. Sakamoto - Magazine the 45th year.
The Okayama Medical Institution, 1933, No. 9.
- Mr. Fujino - Magazine the 43rd year.
The Okayama Medical Institution, 1931,
No. 2.

INDICATIONS: This drug is effective in all sorts of internal and external hemorrhage.

Otorhino Laryngology.

Epistaxis, hemorrhage during operations of the nasal cavity larynx, pharynx, frontal sinusitis, maxillary sinusitis hemorrhage in extraction of the turbinates, nasal polyps, cleaning of the sub-nasal cavity, extraction of the tonsils.

Urology.

Hemataria, hemorrhage often operation of the prostate, the kidney, the bladder, and the urethra.

Internal Diseases.

Hemoptysis, stomach ulcers, purpura scurvy, etc.

Pediatrics.

Malena neonatorum, purpura, etc.

Surgery and Gynecology.

Post-operative hemorrhage, hemorrhage of the uterus.

Dentistry.

Hemorrhage after extraction of a tooth, menstrual hemorrhage, hemorrhage of the liver diseases.

DOSAGE: In many cases, a subcutaneous injection can produce the desired effect. Commonly 1cc. is used for an adult each time. If necessary 2cc. can be injected each time. It is commonly injected once a day, but is harmless to inject twice or thrice a day in case an injection does not produce any effect. For an intravenous injection, 0.5cc. should be slowly injected each time.

It can be taken orally. In this case, 0.5 grams of Irmerin powder (containing 0.1 gram of Irmerin) is given to an adult each time. 1.5 - 2.0 grams is given to an adult per day. In case tablets are given, 1 tablet (0.1) is given each time.

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Irmerin powder contains Irmerin 20% paraOxy-benzyl-guanidine sulphate.

PACKAGING: Injection liquid

10 tubes - 1cc of 5%
50 tubes - 1cc of 5%

Bladder instillation

5 tubes - 5cc of 5%
10 tubes - 5cc of 5%

Powder

25 grams 100 grams

Tablets

20 tablets (0.1%)
45 tablets (0.1%)
100 tablets (0.1%)

MANUFACTURER AND SALES:

Takeda-Chobei Shoten, Ltd.,
Doshumachi, Higashiku, Osaka.